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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/384, 419 08/27/99 BANK

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EXAMINER

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ART UNIT

PAPER NUMBER

2643

DATE MAILED:

01/18/01

Please find below and/or attached an Office communication concerning this application or proceeding.

**Commissioner of Patents and Trademarks**

<b>Office Action Summary</b>	Application No. 09/384,419	Applicant(s) <b>Graham Bank et al.</b>
	Examiner <b>Suhan Ni</b>	Group Art Unit <b>2643</b>

Responsive to communication(s) filed on Aug 22, 1999

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle* 35 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

#### Disposition of Claim

Claim(s) 1-33 is/are pending in the application.  
 Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

Claim(s) \_\_\_\_\_ is/are allowed.

Claim(s) 1-27 and 33 is/are rejected.

Claim(s) \_\_\_\_\_ is/are objected to.

Claims 28-32 are subject to restriction or election requirement.

#### Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

The proposed drawing correction, filed on \_\_\_\_\_ is  approved  disapproved.

The specification is objected to by the Examiner.

The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

All  Some\*  None of the CERTIFIED copies of the priority documents have been received.

received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

#### Attachment(s)

Notice of References Cited, PTO-892

Information Disclosure Statement(s), PTO-1449, Paper No(s). 6

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

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### **DETAILED ACTION**

1. The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to **Group Art Unit 2643.**

#### ***Election/Restriction***

2. Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-27 and 33, drawn to the structures of a loudspeaker, classified in class 381, subclass 190.
- II. Claims 28-31, drawn to the manufacturing for the loudspeaker, classified in class 29, subclass 594.
- III. Claims 32, drawn to the element of a loudspeaker, classified in class 381, subclass 152.

3. The inventions are distinct, each from the others because of the following reason:  
Inventions Group I and Group II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)).

4. Because these inventions are distinct for the reasons giving above and have acquired a separate status in the art as shown by their different classifications, restriction for examination purposes as indicated is proper.

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5. Inventions I and III are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed.

6. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

7. Applicants are advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CAR 1.143).

8. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CAR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a petition under 37 CAR 1.48(b) and by the fee required under 37 CAR 1.17(I).

9. During a telephone conversation with Mr. Alan I. Cantor on December 27, 2000, a provisional election was made without traverse to prosecute the invention of Group I, claims 1-27 and 33. Group II, claims 28-31, and Group III, claim 32, are withdrawn from further consideration by the examiner, 37 CAR 1.142(b), as being drawn to a non-elected invention.

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***Specification***

10. The following guidelines illustrate the preferred layout and content for patent applications.

These guidelines are suggested for the applicant's use.

**Arrangement of the Specification**

The following order or arrangement is preferred in framing the specification and, except for the reference to "Microfiche Appendix" and the drawings, each of the lettered items should appear in upper case, without underlining or bold type, as section headings. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) Title of the Invention.
- (b) Cross-References to Related Applications.
- © Statement Regarding Federally Sponsored Research or Development.
- (d) Reference to a "Microfiche Appendix" (see 37 CAR 1.96).
- (e) Background of the Invention.
  - 1. Field of the Invention.
  - 2. Description of the Related Art including information disclosed under 37 CAR 1.97 and 1.98.
- (f) Brief Summary of the Invention.
- (g) Brief Description of the Several Views of the Drawing(s).
- (h) Detailed Description of the Invention.
- (I) Claim or Claims (commencing on a separate sheet).
- (j) Abstract of the Disclosure (commencing on a separate sheet).

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(k) Drawings.

(l) Sequence Listing (see 37 CAR 1.821-1.825).

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and  
distinctly claiming the subject matter which the applicant regards as his invention.

11. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 4, it recites the limitation "the vibration exciter" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371© of this title before the invention thereof by the applicant for patent.

(f) he did not himself invent the subject matter sought to be patented.

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12. Claims 1-13, 17-21, 24-27 and 33 are rejected under 35 U.S.C. 102(b) as being anticipated by Kishi (US-4,654,554).

Regarding claim 1, Kishi discloses a panel-form loudspeaker comprising: a resonant panel (30, 101) for producing sound and a vibration exciting system (10, 103-104, 107-108) for generating bending wave energy, wherein the vibration exciting system is adapted to the resonant panel (Figs. 11 and 21).

Regarding claims 2-4 and 33, Kishi further discloses the panel-form loudspeaker, wherein the vibration exciting system is adapted to the resonant panel for applying torsion and shear thereto (Fig. 21), and said vibration exciting system is coupled to the panel to span a plurality of nodal lines in the panel (Fig. 21).

Regarding claims 5-6, Kishi further discloses the panel-form loudspeaker, wherein the vibration exciting system comprises a suspension (102) on which the panel is mounted.

Regarding claims 7-8, 10-13 and 24-27, Kishi further discloses the panel-form loudspeaker, that the vibration exciting system comprises a piezoelectric device attached to a face of the panel (101).

Regarding claims 9 and 20-21, Kishi further discloses the panel-form loudspeaker, that said piezoelectric device is a mirror-imaged piezoelectric devices attached to opposite faces of the panel (Fig. 33, 34, 36).

Regarding claims 17-19, Kishi further discloses that, the vibration exciting system comprises an inertial device, which has an inertial mass (104) and is an inertial vibration exciter (10).

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13. Claims 1-8, 10-13, 17-19, 24-27 and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Azima et al. (US-6,031,926).

Regarding claim 1, Azima discloses a panel-form loudspeaker comprising: a resonant panel (2) for producing sound and a vibration exciting system (9) for generating bending wave energy, wherein the vibration exciting system is adapted to the resonant panel (Fig. 1).

Regarding claims 2-4 and 33, Azima further discloses the panel-form loudspeaker, wherein the vibration exciting system is adapted to the resonant panel for applying torsion and shear thereto (Fig. 3), and said vibration exciting system is coupled to the panel to span a plurality of nodal lines in the panel (Figs. 3-7).

Regarding claims 5-6, Azima further discloses the panel-form loudspeaker, wherein the vibration exciting system comprises a suspension (3) on which the panel is mounted.

Regarding claims 7-8, 10-13 and 24-27, Azima further discloses the panel-form loudspeaker, that the vibration exciting system comprises a piezoelectric device attached to a face of the panel (Fig. 7).

Regarding claims 17-19, Azima further discloses that, the vibration exciting system comprises an inertial device (9), which has an inertial mass (9) and is an inertial vibration exciter (9).

14. Claims 1 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Danley (US-4,763,358).

Regarding claim 1, Danley discloses a rotary sound transducer, comprising: a resonant panel (27, 52, 54) for producing sound and a vibration exciting system (14, 16) for generating

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bending wave energy, wherein the vibration exciting system is adapted to the resonant panel (Figs 2, 4).

Regarding claim 22, Danley further discloses the rotary sound transducer, that the vibration exciting system comprises an electrodynamic motor having a rotor with a current-carrying conductor array (Col. 1, line 45 to Col. 2, line 5).

15. Claims 1 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Seidel (US-4,885,781).

Regarding claim 1, Seidel discloses a sound transducer, comprising: a resonant panel (3) for producing sound and a vibration exciting system (2.1, 2.2, 2.3) for generating bending wave energy, wherein the vibration exciting system is adapted to the resonant panel (Figs 1, 2).

Regarding claim 23, Seidel further discloses the sound transducer, that the vibration exciting system comprises a bimorph piezoelectric device (Col. 2, lines 19-27).

16. Claim 1 is rejected under 35 U.S.C. 102(f) as being anticipated by Azima et al. (US-6,031,926), because the applicants, Graham Bank and Denis Morecroft did not invent the claimed subject matter.

#### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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17. Claims 9 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azima et al. (US-6,031,926) in view of Azima et al. (US-6,151,402).

Regarding claims 9 and 20-21, Azima discloses that the vibration exciting system comprises a piezoelectric device which is also acting as an inertial vibration exciter, attached to the panel (Fig. 7). But Azima does not clearly show that said piezoelectric device is a mirror-imaged piezoelectric devices attached to opposite faces of the panel as claimed. In US Pat. 6,151,402, Azima discloses vibration transducers which is a mirror-imaged vibration devices attached to opposite faces of the panel (Fig. 4). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide the mirror-imaged vibration devices for the panel-form loudspeaker as an alternate choice because Azima suggests to do so (Col. 2, line 66 to Col. 3, line 1), and it reduces the thickness of the loudspeaker.

18. Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Azima et al. (US-6,031,926) in view of Kumada et al. (US-4,352,961).

Regarding claims 14-16, Azima discloses that the panel of the panel-form loudspeaker is made of plastic material (Col. 3, line 29 to Col. 4, line 12). But Azima does not clearly show that the panel-form loudspeaker is transparent as claimed. Kumada discloses a transparent flat panel piezoelectric speaker (Fig. 6), comprising a transparent panel (5), a transparent piezoelectric ceramics (13). Therefore, it would have been obvious to one skilled in the art at the time the invention was made to provide the transparent panel and the transparent piezoelectric ceramics taught by Kumada, for the panel-form loudspeaker as an alternate choice, for providing a transparent visual effect for a desirable application.

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***Double Patenting***

19. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CAR 1.321© may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CAR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CAR 3.73(b).

20. Claim 1 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 08/707,012. Although the conflicting claims are not identical, they are not patentably distinct from each other because a panel-form loudspeaker comprising: a resonant panel (2) for producing sound and a vibration exciting system (9) for generating bending wave energy, wherein the vibration exciting system is adapted to the resonant panel (Fig. 1) also has been claimed.

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This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

*Conclusion*

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Suhan Ni** whose telephone number is **(703)-308-9322**, and the number for fax machine is **(703)-305-9508**. If it is necessary, the examiner's supervisor, **Curtis Kuntz**, can be reached at **(703) 305-4708**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is **(703) 305-3900**.

SN/HL, CK

January 7, 2001



CURTIS KUNTZ  
SUPERVISORY PATENT EXAMINER  
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